

Amendment and Response

Applicant: Jeffrey D. Meyer et al.

Serial No.: 09/560,509

Filed: April 27, 2000

Docket No.: 10002145-1

Title: INTERNET USAGE DATA RECORDING SYSTEM AND METHOD WITH CONFIGURABLE
DATA COLLECTOR SYSTEM

IN THE CLAIMS

Please add claims 25-31.

Please cancel claims 3, 15 and 19.

Please amend claims 1, 4, 5, 10, 14, 16-18 and 20 as follows:

1. (Currently Amended) A network usage recording system comprising:

A collector including:

an encapsulator for reading a plurality of network data records from a network data source and converting the network data records to a plurality of normalized metered events;

an aggregator for processing the normalized metered events to create aggregated normalized metered events; and

a data storage system, wherein the aggregator periodically stores the aggregated normalized metered events in the data storage system; and

a configuration server in communication with the encapsulator, the aggregator and the data storage system, wherein the configuration server stores configuration data for the encapsulator, the aggregator, and the data storage system that determines whether the collector operates as a network data collector or a correlator collector.

2. (Original) The system of claim 1, wherein the aggregator includes volatile memory for temporary storage of the aggregated normalized metered events.

3. (Cancelled)

4. (Currently Amended) The system of claim 31, wherein the configuration server communicates the configuration data to the encapsulator, the aggregator and the data storage system at start-up.

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4/5. (Currently Amended) The system of claim 3~~1~~, further comprising a collector shell, wherein the configuration server communicates with the encapsulator, the aggregator and the data storage system via ~~the~~a collector shell.

5/6. (Original) The system of claim 1, further comprising a query manager in communication with the data storage system for querying the data storage system.

6/7. (Original) The system of claim 6~~7~~, wherein the query manager is in communication with the data storage system via the aggregator.

3/8. (Original) The system of claim 1, further comprising a statistics log, wherein the statistics log is in communication with the encapsulator, the aggregator and the data storage system for logging statistical data.

8/9. (Original) The system of claim 8~~9~~, further comprising a collector operator, wherein the collector operator communicates with the encapsulator, the aggregator, the data storage system and the statistics log to provide administrative access.

9/10. (Currently Amended) The system of claim 1, wherein the encapsulator further includes a parser ~~for~~ parsing network data received from the network data source.

10/11. (Original) The system 1, wherein the collector is configured as a network data collector.

11/12. (Original) The system of claim 1, wherein the collector is configured as a correlator collector.

12/13. (Original) The system of claim 1, wherein the collector is configured to perform additional levels of data reduction and consolidation of data stored in other collectors.

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13
14. (Currently Amended) A network usage recording system comprising:
a collector system including:

- a collector shell;
- a query manager;
- an encapsulator;
- an aggregator; ~~and~~
- a data storage system; and

a configuration server in communication with the encapsulator, the aggregator and the data storage system, the configuration server stores configuration data for the collector that determines whether the collector system operates as a network data collector or a correlator collector.

15. (Cancelled)

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16. (Currently Amended) The system of claim ~~15~~ ¹³14, wherein the configuration server communicates with the encapsulator, the aggregator and the data storage system via the collector shell.

17. (Currently Amended) A method for recording network usage comprising ~~the steps of:~~
defining a collector including an encapsulator, an aggregator and a data storage system;

operating the encapsulator to read a plurality of network data records from a network data source and convert the network data records to a plurality of normalized metered events;

aggregating the plurality of normalized metered events to create a plurality of aggregated normalized metered events; ~~and~~

storing the aggregated normalized metered events in the data storage system at periodic intervals;

defining a configuration server in communication with the encapsulator, the aggregator and the data storage system; and

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storing configuration data for the
encapsulator, the aggregator and the data storage system in the configuration server
where the configuration data determines whether the collector operates as a network
data collector or a correlator collector.

16
18. (Currently Amended) The method of claim 17, further comprising ~~the steps of~~ defining the aggregator to include ~~volatile~~ volatile memory and storing the aggregated normalized metered events temporarily in the ~~volatile~~ volatile memory.

3
19. (Cancelled)

17
20. (Currently Amended) The method of claim 19, further comprising the step of transferring the configuration data to the encapsulator, the aggregator and the data storage system at start-up.

18
21. (Original) The method of claim 17, further comprising the step of defining a query manager in communication with the data storage system for managing queries of the data storage system.

19
22. (Original) The method of claim 17, further comprising the step of defining a statistics log in communication with the encapsulator, the aggregator and the data storage system, and collecting statistics associated with the encapsulator, the aggregator and the data storage system in the statistics log.

20
23. (Original) The method of claim 17, further comprising the step of parsing the network data records from the usage data source read by the encapsulator.

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24. (Currently Amended) A computer readable medium containing instructions for controlling a computer system to perform a method for recording network usage comprising the steps of:

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defining a collector including an encapsulator, an aggregator and a data storage system;

operating the encapsulator to read a plurality of network data records from a network data source and convert the network data records to a plurality of normalized metered events;

aggregating the plurality of normalized metered events to create a plurality of aggregated normalized metered events; ~~and~~

storing the aggregated normalized metered events in the data storage system at periodic intervals; and

defining a configuration server in communication with the encapsulator, the aggregator and the data storage system; and

storing configuration data for the encapsulator, the aggregator and the data storage system in the configuration server where the configuration data determines whether the collector operates a network data collector or a correlator collector.

25. (New) A network usage recording system comprising:

a plurality of configurable collectors, where each collector configurable to operate as one of a plurality of collector types, the collector types including a data collector and a correlator collector;

a configuration server in communication with each configurable collector, where the configuration server stores configuration data for each configurable collector that determines the collector type for each collector, and once the configuration data is transferred to each configurable collector, each configurable collector becomes the collector type associated with the configuration data.

26. (New) The system of claim 25, wherein the collector types include an aggregator collector.

27. (New) The system of claim 25, where each configurable collector includes three configurable components: an encapsulator, an aggregator and a data storage system.

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~~28~~ 28. (New) The system of claim ~~27~~ 24, where the configuration data includes encapsulator configuration data, aggregator configuration data and data storage system configuration data.

~~29~~ 29. (New) The system of claim ~~27~~ 24, wherein the configuration data includes aggregator configuration data, and where the aggregator configuration data includes a flush policy, aggregation scheme and rules.

A4 ~~30~~ 30. (New) The system of claim ~~28~~ 27, where each configurable collector independently queries the configuration server for configuration data, and the configuration server transfers the configuration data for each configurable collector to the corresponding configurable collector.

~~31~~ 31. (New) The system of claim ~~30~~ 27, where each configurable collector queries the configuration server at start-up of the configurable collector.
